

ABSTRACT

In a substrate vacuum processing chamber, a second inner slit passage door apparatus and method to supplement the normal slit valve and its door at the outside of the chamber. The inner slit passage door, blocks the slit passage at or adjacent the substrate processing location in a vacuum processing chamber to prevent process byproducts from depositing on the inner surfaces of the slit passage beyond the slit passage door and improves the uniformity of plasma in the processing chamber by eliminating a large cavity adjacent to the substrate processing location into which the plasma would otherwise expand. The inner slit passage door is configured and positioned in such a way as to avoid generating particles from the opening and closing motion of the second slit valve door, as it does not rub against any element of the chamber during its motion and the inner slit passage door is positioned with a predetermined gap from adjacent pieces and the door configuration includes beveled surfaces to further reduce the chance for particle generation, even when there is deposition of process byproducts on the door and its adjacent surfaces.